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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/673,057

09/26/2003

Zbigniew M. Dziong

Dziong 9-1

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MENDELSON & ASSOCIATES, P.C.  
1500 JOHN F. KENNEDY BLVD., SUITE 405  
PHILADELPHIA, PA 19102

EXAMINER

CHAN, SAI MING

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

01/15/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/673,057

Applicant(s)

DZIONG ET AL.

Examiner

Sai-Ming Chan

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08) ✓  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1-7, 12-15 and 17** are rejected under 35 U.S.C. 102(e) as being anticipated by **Zang et al. (U.S. Patent #7209975)**.

Consider **claim 1**, Zang et al. clearly disclose and show a method for determining a restoration path (column 2, lines 37-51(backup path)) corresponding to a primary path (column 2, lines 37-51(working path)) for a new service in a mesh network (column 6, lines 26-31 (connection request)) having a plurality of nodes (column 2, lines 37-51(network elements)) interconnected by a plurality of links (column 2, lines 37-51(working paths)), the method comprising:

Art Unit: 2609

generating a path cost for each of a plurality of candidate restoration paths (column 6, lines 15-26 (value assigned to links)) associated with the new service; and

selecting the restoration path for the new service based on the path cost for each candidate restoration path (column 6, lines 15-26 (minimizes the value)), wherein generating the path cost for a candidate restoration path comprises:

determining, for each link  $L_i$  of one or more links in the candidate restoration path, a set B- $L_i$ -set of links (column 7, lines 35-42 (working path)) protected by link  $L_i$  (column 7, lines 35-42 (backup sub-path));

determining, for each link  $L_i$ , a set I- $L_i$ -set of links (fig. 3 (360,361 and 362), column 5, lines 12-25), in the set B- $L_i$ -set that are also in the primary path; calculating, for each link  $L_i$ , a link cost  $Cost\_L_i$  based on the set B- $L_i$ -set and the set I- $L_i$ -set (column 8, lines 39-67); and

calculating the path cost based on a sum of the one or more link costs  $Cost\_L_i$  (column 8, lines 39-67).

Consider **claim 2**, and **as applied to claim 1 above**, Zang et al. clearly disclose and show an invention, wherein the set I- $L_i$ -set is determined from an intersection of the set B- $L_i$ -set and a set P-set of links in the primary path (fig. 3 (360,361 and 362), column 5, lines 12-25).

Art Unit: 2609

Consider **claim 3**, and **as applied to claim 1 above**, Zang et al. clearly discloses and shows an invention, wherein, for link Li, the link cost Cost\_Li is a function of whether or not the set B-Li-set is empty (paragraphs 44-45 (column 8, lines 40-67 (S.sup.k,w.sub.ij could be 1 or 0))).

Consider **claim 4**, and **as applied to claim 3 above**, Zang et al. clearly discloses and shows an invention, wherein:

if the set B-Li-set is empty (column 9, lines 1-19), then the link cost Cost\_Li is based on bandwidth of the new service (column 9, lines 1-19); and

if the set B-Li-set is not empty, then the link cost Cost\_Li is a function of whether or not the set I-Li-set is empty (column 8, lines 39-67).

Consider **claim 5**, and **as applied to claim 4 above**, Zang et al. clearly disclose and show an invention, wherein:

if the set I-Li-set is empty (column 8, lines lines 40-67 (S.sup.k,w.sub.ij is 0))), then the link cost Cost\_Li is based on a difference between the bandwidth of the new service and bandwidth currently reserved on the link Li (column 8, lines 39-67); and

if the set I-Li-set is not empty (column 8, lines lines 40-67 (S.sup.k,w.sub.ij is 1))), then the link cost Cost\_Li is based on a difference between (a) a sum of the bandwidth of the new service and maximum service bandwidth protected by link Li for all links in

Art Unit: 2609

the set  $I-L_i$ -set and (b) the bandwidth currently reserved on the link  $L_i$  (column 8, lines 39-67).

Consider **claim 7**, and **as applied to claim 1 above**, Zang et al. clearly disclose and show an invention, wherein the method is implemented for each of a plurality of candidate primary paths to generate a path cost associated with the candidate primary path (column 6, lines 15-26 (value assigned to links)) and further comprising selecting one of the candidate primary paths for the new service based on minimum path cost (column 6, lines 15-26 (minimizes the value)).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

Art Unit: 2609

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating

obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 6 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Zang et al.(U.S.Patent #7209975)**, in view of **Chudak (U.S. Patent # 7308198)**.

Consider **claim 6**, and **as applied to claim 4 above**,

**claim 16**, and **as applied to claim 14 above**,

Zang clearly disclose and show an invention as described.

However, Zang do not specifically disclose high level cost of capacity.

Art Unit: 2609

Furthermore, Chudak clearly disclose the path cost is set to a relatively high level if there is not enough capacity on the link Li to protect the new service (column 17, lines 41-45 (costs twice as much)).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a restoration path system as taught by Zang, and demonstrate the high cost of capacity, as taught by Chudak, in order to maintain the network survivability.

**Claims 8-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Zang et al. (U.S. Patent #7209975)**, in view of **Battou (U.S. Patent Publication # 20020174207)**.

Consider **claim 8**, and **as applied to claim 1 above**, Zang et al. clearly disclose and show a restoration path system, wherein the network is an open shortest path first (column 6, lines 1-8 (OSPF)) network and restoration bandwidth information associated with each link in the candidate restoration path is transmitted between nodes using a data structure defined by OSPF opaque link-state advertisement option (column 6, lines 1-8 (OSPF)).



Art Unit: 2609

However, Zang et al. do not specifically display OSPF-TE. Furthermore, Battou clearly disclose an OSPF with traffic engineering extensions (paragraph 253 (support traffic engineering)).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a restoration path system as taught by Zang, and demonstrate the usage of OSPF-TE, as taught by Battou, in order to maintain the network survivability.

Consider **claim 9**, Zang et al. clearly disclose and show a mesh network as in claim 1.

However, Zang et al. do not specifically display network manager for the network. In the same field of endeavor, Battou clearly disclose a network with managers running different portion of the network (abstract).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a restoration path system as taught by Zang, and demonstrate the usage of OSPF-TE, as taught by Battou, in order to maintain the network survivability.

With respect to **claim 12-15** and **17**, they are rejected for the same reason as set forth in the node **claims 2-5 and 7**, respectively.

Art Unit: 2609

Consider **claims 10 and 11**, and **as applied to claim 9 above**, Zang et al. clearly disclose a mesh network restoration system as described. However, Zang et al. do not specifically disclose network manager in the network.

In addition, Battou clearly disclose the network manager is distributed over the network (abstract (plurality of managers)) and the network manager is located at a single node of the network (paragraph 11).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate a restoration path system as taught by Zang, and demonstrate the network manager, as taught by Battou, in order to maintain the network survivability.

### ***Conclusion***

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Art Unit: 2609

**Hand-delivered responses** should be brought to

Customer Service Window  
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401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Sai-Ming Chan whose telephone number is (571) 270-1769. The Examiner can normally be reached on Monday-Thursday from 6:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

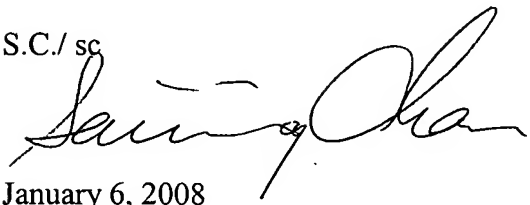
*Sai-Ming Chan*

Application/Control Number: 10/673,057

Page 11

Art Unit: 2609

S.C./sc



January 6, 2008

*Seema S. Rao*  
SEEMA S. RAO 1/7/08

SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2300